



Passengers on a nautical device, according to the present invention, can be positioned one behind the other and/or side-by-side. The front of the nautical device moves upward in accordance with its towing speed in a progressively vertical fashion against the liquid element, e.g., water. The nautical device can bounce from wave to wave and on occasion, can be lifted altogether out of the water.

~~It comprises, according to a first characteristic, an inflatable front structure, called a Front Structure (fig. 1)(1), of a more or less cylindrical form made from Hypalon neoprene or any other similar material, incorporating perpendicularly at least two inflatable structures of more or less cylindrical shape called Secondary Structures (2).~~

The nautical device, according to an embodiment of the present invention, includes an inflatable front structure and secondary structures. The front structure is generally cylindrical and is made from a material such as Hypalon neoprene. The secondary structures are disposed perpendicular to the front structure and include at least two inflatable structures that are generally cylindrical.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a nautical device according to an embodiment of the present invention;

Fig. 2 is a perspective view of a nautical device according to another embodiment of the present invention; and

Fig. 3 is a top view of a nautical device according to a further embodiment of the present invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

~~This invention concerns a non-motorised towable device lifting from the front when towed and leaving the liquid element on occasions for the pursuit of a sensational aquatic leisure activity characterised by its essential components, which are:~~

~~—A preferably inflatable structure (fig. 1)(1), elongated uniquely in a principal forwards direction perpendicular to the direction of movement,~~

~~—At least two elongated inflatable secondary structures (2), which interlock on the internal side of the front structure with one of the extremities of the secondary structures (2) to the front structure (1), without interlocking to the closed extremities of the front structure, which emerge from the sides.~~

~~—At least one elongated inflatable or non-inflatable auxiliary structure (3)(3<sub>1</sub>)(3<sub>2</sub>) with a transversal section inferior to those of the secondary structures (2), linking the secondary structures (2) in a parallel manner in order to provide maximum buoyancy, the auxiliary structure(s) being able to be optionally juxtaposed together in groups to link the secondary structures.~~

~~—A means for the passenger or passengers to hold on by (5).~~

Fig. 1 is a perspective view of a nautical device according to an embodiment of the present invention. The nautical device is a non-motorised towable device that is lifted from the front when towed and that can be lifted altogether out of the water or other liquid element on occasion during use. The nautical device can be used for an aquatic leisure activity.

The nautical device, as shown in Fig. 1, includes a front structure 1, at least two secondary structures 2, at least one auxiliary structure 3,3<sub>1</sub>,3<sub>2</sub>, and at least one retainer 5 or other device to allow one or more passenger to hold on to the nautical device.

The front structure 1 is preferably inflatable and elongated uniquely in a principal direction that is perpendicular to the direction of movement of the nautical device.

The secondary structures 2 are inflatable and elongated. One end of each of the secondary structures 2 interlocks with an inner side (towards the center of the nautical device) of the front structure 1. In the embodiment of the invention shown in Fig. 1, the secondary structures 2 do not interlock with the closed ends of the front structure 1 which extend outward from the sides of the nautical device.

The nautical device can include one or more of the auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> shown in Fig. 1. The auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> are elongated and can be inflatable or non-inflatable. The auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> can each have a cross section that is smaller than the cross section of the secondary structures 2 and can link with the secondary structures 2 in a parallel manner to provide maximum buoyancy. One or more of the auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> can be optionally juxtaposed together in groups to link the secondary structures 2.

~~The secondary (2) and auxiliary structures (3)(3<sub>1</sub>)(3<sub>2</sub>), lying parallel to each other in the nautical device's principal direction of movement, and being approximately perpendicular to the principal direction of the front structure (1), the secondary structures (2) and the auxiliary structures (3)(3<sub>1</sub>)(3<sub>2</sub>) not being linked by a rear structure.~~

The secondary structures 2 and the auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> are disposed parallel to each other along the principal direction of movement of the nautical device and are approximately perpendicular to the principal direction of the front structure 1. The secondary structures 2 and the auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> are not linked by a rear structure, and therefore, rear ends of the secondary structures 2 and the auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> are not linked.

~~According to the special construction method — the front structure (1) is equipped on its lower part, in particular, the floatation line, with a towing attachment (fig. 1)(6) to facilitate the lifting of the front of the nautical device when towed,~~

~~According to the special construction method — towing is made possible by means of at least two attachment points fixed to the front structure (1), in alignment with the secondary structures (2) relative to the direction of movement.~~

~~According to the special construction method — the towing attachments (6) comprise at least two towing elements linked to a central point on the external forward part of the nautical device, which is itself linked to a towing element linked to the towing boat.~~

The front structure 1 shown in Fig. 1 includes on its lower part a towing attachment 6 to facilitate the lifting of the front of the nautical device when towed, e.g., by a towing boat. The towing attachment 6 is preferably attached to the lower part of the front structure 1 under the floatation line.

The towing attachment 6 shown in Fig. 1 includes at least two attachment points that are fixed to the front structure 1 at positions that align with the secondary structures 2 relative to the direction of movement of the nautical device.

The towing attachment 6 shown in Fig. 1 includes at least two towing elements, e.g., lines, that are linked to a central point on a front external part of the nautical device. The front external part of the nautical device is linked to the towing element, which is linked to the towing boat.

~~According to the special construction method — the front structure (1) presents an appearance approximately semicircular or delta-wing shaped with the extremities closed, the front structure (1) emerging approximately towards the rear and/or the side,~~

~~According to the special construction method—the front structure (1) would appear to be approximately semicircular or delta-wing shaped, comprising at least two straight segments linked together with the closed extremities of the front structure (1), emerging approximately towards the rear and/or to the side.~~

The front structure 1 is approximately semicircular or delta-wing shaped having closed ends and expands approximately towards the rear and/or the side of the nautical device. The front structure 1 can include at least two straight segments linked together having closed ends that extend approximately towards the rear and/or the side of the nautical device.

~~According to the special construction method—moreover, the nautical device comprises of a supple lateral skirt (7) along each side, markedly triangular in shape, to link the sides of the front structure (1) to the auxiliary structures (3<sub>1</sub>)(3<sub>2</sub>), or to the most external lateral secondary ones (2).~~

The nautical device includes a flexible and supple lateral skirt 7 along each side. The lateral skirts 7 are triangular and link the side of the front structure 1 to either auxiliary structures 3, 3<sub>1</sub>, 3<sub>2</sub> (Figs. 1 and 3) or to the most external lateral secondary structures 2 (Fig. 2).

~~According to the special construction method—the~~ The various different inflatable structures terminate in unlinked ~~extremities~~ rear ends with an approximately conical, semi-spherical or ovoid form.

~~Moreover, the nautical device comprises a method for the passenger or passengers to hold on with, in particular, straps and/or foot checks.~~

~~According to the special construction method—the nautical device comprises a method for the passenger or passengers to stand upright, lie down, sit or sit astride the secondary structures.~~

Straps and/or foot chocks 11 can be provided to allow the passenger(s) to hold on to the nautical device. The passenger(s) can stand upright, lie down, sit, or sit astride the secondary structures 2.

As shown in Fig. 1, the nautical device includes three secondary structures 2, and the central secondary structure 2 is linked on each side by an auxiliary inflatable structure 3. The two secondary structures 2 on either side of the central secondary structure 2 are joined by auxiliary structures 3,3<sub>1</sub>,3<sub>2</sub> to form triangular profiles that extend towards the rear of the nautical device. The devices that allow the passengers to hold on to the nautical device, e.g., retainers 5, are disposed principally on the secondary structures 2.

~~According to the special construction method the nautical device, characteristically composed of at least two secondary structures (fig. 2)(2), linked by at least one auxiliary structure (fig. 2)(3), distinctively flat, with a method of directional control for the nautical device, in particular and typically a cord, (12) fixed to each side (13) of the front structure (1) to steer the nautical device by at least one passengers typically standing upright.~~

~~According to the special construction method the nautical device, according to the invention, characteristically comprises three secondary structures (2), the central secondary structure being linked at one end and the other by a auxiliary inflatable structure, the two secondary structures on either side of the central secondary structure being joined between each other, the rear part, by lengths of structures forming triangular profiles extending towards the rear, the method for passengers to hold on being situated principally on the secondary structures.~~

Fig. 2 is a perspective view of a nautical device according to another embodiment of the present invention. According to this embodiment of the invention, the nautical device includes at least two secondary structures 2 linked by at least one auxiliary structure 3 that is distinctively flat.

The nautical device also includes a device for allowing directional control for the nautical device, such as a cord 12 fixed to each end 13 of the front structure 1 to allow at least one of the passengers, who is typically standing upright, to steer the nautical device.

~~According to the special construction method — the front of the towable non-motorised nautical device lifts up when towed and leaves the liquid element occasionally in the pursuit of a sensational aquatic sport, a leisure activity, characterised essentially by:~~

~~—An inflatable structure (1) elongated uniquely in a principal forward direction, perpendicular to the direction of movement.~~

~~—An elongated inflatable secondary structure (2) which interlocks on the inner side of the front structure with one of the extremities of the secondary structures (2) to the front structure (1), without interlocking to the closed extremities of the frontal structure, which emerge from the sides.~~

~~—Two elongated inflatable auxiliary structures (3)(3<sub>1</sub>), with a transverse section inferior to those of the secondary structures (2), linking the secondary structures (2) in a parallel manner in order to provide maximum buoyancy.~~

~~—A method for the passenger or passengers to hold on with, in particular, straps and/or foot chocks.~~

~~—The secondary and auxiliary structures, lying parallel to each other in the nautical device's principal direction of movement and being approximately perpendicular to the principal direction of the front structure (1), the secondary structure (2) and the auxiliary structures (3)(3<sub>1</sub>)(3<sub>2</sub>) not being linked by a rear structure.~~

Fig. 3 is a top view of a nautical device according to a further embodiment of the present invention. The nautical device shown in Fig. 3 is a non-motorised towable nautical device that is





~~the front structure (1) appears approximately semicircular or delta-wing shaped, with the extremities closed, the front structure (1) emerging approximately towards the rear and/or the side.~~

The front structure 1 is approximately semicircular or delta-wing shaped having closed ends and expands approximately towards the rear and/or the side of the nautical device.

~~Towing attachments (6), in particular, under the floatation line, a supple lateral skirt (7) is fixed to the front structure (1) on either side of the nautical device, markedly triangular in shape, linking the sides of the front structure (1) to the auxiliary structures (3)(3<sub>1</sub>).~~

The towing attachment 6 can be attached to the lower part of the front structure 1 under the floatation line. The flexible lateral skirt 7 is fixed to the front structure 1 on the sides of the nautical device, is triangular, and links the sides of the front structure 1 to the auxiliary structures 3, 3<sub>1</sub>.

~~According to the special construction method—the~~ The entire nautical device is can be composed of hollow or solid rigid structures that are made, for example, from one of the following materials: plastic, reinforced fibreglass resin, and composite material ~~and others.~~

~~According to the special construction method—the~~ Alternatively, the entire nautical device is can be composed of inflatable structures made from supple or watertight materials, for example, from one of the following materials: rubber, PVC, and Hypalon neoprene ~~and others.~~

~~According to the special construction method—at~~ At least one of the auxiliary structures (3)(3<sub>1</sub>)(3<sub>2</sub>) 3,3<sub>1</sub>,3<sub>2</sub> is made from supple or watertight materials, for example, from one of the following materials: rubber, PVC, and Hypalon neoprene. Special techniques have been elaborated in order to allow firstly:

~~—incorporation of perpendicular structures (2) in the front structure (1),~~

~~—secondly, the construction of the front structure (1).~~

According to the present invention, special methods have been described for, first, incorporating the perpendicular secondary structure(s) 2 in the front structure 1 and second, constructing the front structure 1.

~~According to the special construction method—each perpendicular~~ Each secondary structure (2) 2, which are perpendicular to the front structure 1, can accommodate one or several more passengers sitting or standing one behind the other or side by side.

~~According to the special construction method—at~~ At each side of the perpendicular secondary structures (2) 2, one or several—small—intermediary more smaller auxiliary structures (3)(3<sub>1</sub>)(3<sub>2</sub>) 3,3<sub>1</sub>,3<sub>2</sub> can be used as foot rests and stabilisers while ensuring better buoyancy for the nautical device. ~~According to the special construction method—the~~ The ends of the different inflatable structures' extremities structures are cone-shaped or of any other shape they in which the ends may be terminated in. ~~According to the special construction method—straps~~ Retainers, such as straps or any other system device, can be fixed in any useful place on the nautical device in order to improve the passenger or passengers foothold of the passenger(s).

~~According to the special construction method—the~~ The different structures are interlocked together either by adhesives and/or welding and/or by sewing. The inflatable structures can incorporate (an) one or more independent compartment(s) compartments to increase safety; regarding safety. Regarding the question of submergibility, the inflatable secondary structures can be interlocked with the front structure by inserting one extremity end of the secondary structures into the front structure with fasteners or by adhesives and/or welding and/or by sewing.

~~Figure 1 represents the nautical device in perspective~~

~~Figure 2 represents a variation of the nautical device seen from above~~

~~Figure 3 represents a variation of the nautical device seen in perspective.~~